North American Drought Monitor – November 2003

CANADA: During the month of November, precipitation was near average in southern agricultural regions of British Columbia, southern Ontario and southern Quebec. Precipitation was below average in the Atlantic Region, northwest Ontario, and generally well below average on the Canadian Prairies.

Abnormally dry conditions (D0) persist in the Interior of British Columbia and severe drought conditions (D2) linger in the extreme southeast corner of the province. Groundwater levels have increased in most observation wells reported by the province.

Average moisture to severe drought conditions are found across the province of Alberta. Severe drought conditions are isolated in the High Level and southwest corner of the province.

Drought conditions persist in eastern agricultural regions of Saskatchewan and western Manitoba. For the most part, flows in the major river systems in Saskatchewan remained at below-normal levels. North central areas of the grainbelt (north of Saskatoon) and parts of the central grainbelt east of Regina are experiencing some water supply shortages.

Levels of Manitoba's lakes, rivers, aquifers and some reservoirs continue to be unusually low. River flows are generally at 10-year lows while many lakes are at 20-year lows or lower in Manitoba. Many aquifers are the lowest since the early 1990's when the last dry spell occurred, and a few are nearing all-time lows. On-farm water supplies such as dugouts and shallow wells are very low in many areas. While water conditions, in general, are unusually low, the problems this winter will be mainly for on-farm water supplies and hydroelectric generation. Some rural water shortages have already developed and more are expected this winter as more dugouts run dry and more shallow wells dry up. A few significant aquifers supplying villages and loading stations may be in difficulty later this winter or in 2004. There may also be some difficulties in accessing water from rivers due to the unusually low river levels. However, water supplies in reservoirs are quite good at this time and, with careful water management, will continue to supply adequate water through 2004 to villages, towns and farms which depend on them.

Only the Dryden area remains in low flow in northwest Ontario. The agricultural regions of northwest Ontario are in an abnormally dry (D0) to moderate drought status (D1) due to low lake levels. In southern Ontario, watersheds in 5 Conservation Authorities (CA) are in a confirmed Low Water condition based on the provincial criteria. Most locations in Ontario and southern Quebec have received above-average precipitation in the past 3 months.

Precipitation has been below average in Newfoundland, Prince Edward Island, eastern New Brunswick, and parts of Nova Scotia; however, there are no negative impacts on water supply or drought impacts at this time.

MEXICO: There were no major changes in the distribution of drought conditions over Mexico in comparison with those observed in October. The National Meteorological Service reported an areal mean precipitation anomaly of 108% for November. The greatest concentration of wetness was observed along the southern coast of the Gulf of México (southern Veracruz, Tabasco, Campeche and Yucatan), where the passage of frontal systems produced several events of Nortes winds, transporting moisture from the Gulf into these states that received more than 150% of their normal November precipitation. Some rains were also observed in portions of Baja California Peninsula and Sonora (see November SPI).

Although the western half of the country received less than 50% of their normal precipitation for November, the wet conditions observed during September and October left only small pockets of abnormal dryness (D0) in isolated coastal sections of Michoacan, Guerrero and Oaxaca. Another two small regions of abnormal dryness (D0) extend over central Chiapas and along the border between Campeche, Quintana Roo, and Yucatan. The northern tip of Baja California continued under abnormal dryness (D0). The only region with increased drought conditions was northwestern Mexico, from northern Sinaloa northward along the Sonora and Chihuahua borders where D0 (A, H) and D1 (A, H) developed in November. Far northern Chihuahua continued to experience extreme drought. As mentioned last month, although most of the dams in northern, central and southeastern Mexico have shown moderate recovery from their severely low levels of early summer, it is recommended that water users continue to be cautious about their water usage.

UNITED STATES: In contrast to October, a stormy weather pattern brought abundant rain and snow to many parts of the country during November. Rain and snow accumulations were near to above normal across much of the West, and precipitation totals reached more than twice normal in a band extending from southeastern Nebraska northeastward through southern Wisconsin and Michigan's Lower Peninsula. Madison, Wisconsin, recorded its wettest November since 1934, measuring 190 mm (7.49 inches) of precipitation. In contrast, precipitation totaled less than 25% of normal in eastern Colorado and much of Kansas. Denver, Colorado, experienced its driest November since 1949, with a meager 1 mm (0.05 inches) for the month.

The dryness in the Great Plains allowed D0 to D3 dryness/drought to continue this month from Texas to the Dakotas. The lack of moisture adversely affected the winter wheat crop, with the key wheat state of Kansas reporting 23% of its wheat crop in poor to very poor condition and topsoil moisture short to very short over 65% of it farmlands. In the Upper Midwest, the rain and snow eased dryness and drought, eliminating D0 to D1 dryness over Michigan and reducing drought levels in southern Wisconsin and eastern Iowa. Farther north, monthly precipitation less than one-half of normal resulted in D1 drought persisting over Minnesota. With rain and snow increasing streamflows while snowpack built up in the mountains, drought improved by one to two categories in western Montana and parts of northern Idaho and western Oregon. Early-month rains eased the fire threat in southern California and improved the drought category from D1 to D0 along the southern coast. Elsewhere, torrential rains late in November eliminated drought from much of the Hawaiian chain, although D2 drought persisted in western parts of the Big Island.

The hydrological drought situation changed little for most of the interior West, with D2 to D4 drought extending from Arizona and New Mexico to Idaho, Montana and eastern Oregon. Reservoir levels remained below normal in every western state except California, and storage was less than one-half of normal in Nevada, New Mexico, Utah and Oregon.